

NAME _____

PERIOD _____ DATE _____

MORE ON GRAPHING INVERSE FUNCTIONS

In the study of inverse functions, a student is frequently given a function $f(x)$ and asked to find its inverse and then to sketch its graph. Knowing that the graph of the inverse is the reflection of the graph of $f(x)$ in the line with the equation $y = x$ is helpful, but the student still has difficulty visualizing the graph of the inverse.

Here is a procedure of obtaining the graph of $f^{-1}(x)$, which should prove to be helpful, interesting, and maybe even fun to use.

PROCEDURE:

1. On a sheet of paper, sketch the graph of $f(x)$, making sure to label the axis.
2. Turn the sheet of paper over leaving the left edge fixed as you would do if you were turning a page in a book.
3. Rotate the sheet of paper clockwise 90° about the lower right-hand corner.
4. Hold the sheet of paper up to a light source so that the writing on the other side is visible.

The graph that is visible through the sheet of paper is that of $f^{-1}(x)$. The axes are in their usual position with, of course, the x and y labels interchanged.

Try this technique on the following function.

